

STATUS OF THE BLACK SHAHEEN OR INDIAN PEREGRINE FALCON
FALCO PEREGRINUS PEREGRINATOR IN SRI LANKA¹

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(With one text-figure)

Key words: Indian peregrine falcon, shaheen falcon, *Falco peregrinus peregrinator*, Sri Lanka, nest sites, population estimate

A literature survey and study of museum specimens was carried out to register all locations of sightings for the subspecies *Falco peregrinus peregrinator* in Sri Lanka. In 1995 and 1996, field surveys were conducted to find occupied nest sites. Data of nest site distances were used for the calculation of a preliminary population estimate. Comparison of the estimated population density of 40 breeding pairs in Sri Lanka was made with sample data from southern Germany. In spite of no obvious signs of food shortage, or nest site limitations, the estimated breeding population of Sri Lanka is very low.

INTRODUCTION

The Indian peregrine falcon (*Falco peregrinus peregrinator*) has always been regarded as a very uncommon and shy bird, and it is very rarely met with by amateur birdwatchers (Ali and Ripley 1968, Legge 1878-80). Thus data from Sri Lanka are scarce. It is generally acknowledged that it is a breeding resident in Sri Lanka (Henry 1971, Lamsfuss 1996b, Wait 1971) but estimates of the total population have only been made on the basis of data from single sight records.

MATERIAL AND METHOD

In 1995 and 1996, field surveys were conducted to determine the current status. This was necessary as a prerequisite for a research project which is presently ongoing, supported by the Ceylon Bird Club and the Department of Wildlife Conservation. Before starting any field work, all available historical data were collected to gain a preliminary impression and to find a possible starting point for the field surveys. The data gathered from an intensive literature survey

as well as from labels on museum skins (Natural History Museum, Tring; Bombay Natural History Society Museum; the Museum of Zoology, University of Michigan) in 1994 are shown in Table 1. Equipped with this data, the first brief field search was carried out from March 17 to 26, 1995. The shaheen falcons display greatest activity during early courtship which is believed in Sri Lanka to be from February to June (Henry 1971). To locate nest sites and the falcons, road side searches were thought to be best. Every rock face along a road was checked for white marks and scanned with binoculars. The white marks result from excreta of falcons roosting at the same spot in a rock face and can be seen fairly well from a distance. When white marks (droppings) were spotted, the rock face was marked on the map and the geographical data were recorded by Geographical Position System (GPS). Approximately one to two hours were then spent on direct observation to determine the presence of shaheen falcon. The main purpose of this road side count was to find nest sites occupied by breeding pairs for further research at a later date. Results of the 1995 road side count are listed in Table 2.

Although not many birds could be found during the first survey, the results were encouraging and one possible study area (Dehiattakandiya) was selected for further research. Preparations for the subsequent year's survey were then made.

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TABLE 1
HISTORICAL RECORDS OF SHAHEEN FALCONS (*FALCO PEREGRINUS PEREGRINATOR*) SEEN OR SHOT IN (CEYLON) SRI LANKA. DATA GATHERED FROM LITERATURE SURVEY AND MUSEUM SKIN EXAMINATION

Date	Location	Description/Observation	Source
1853		Foot of Adams Peak (mistaken for <i>Falco severus</i>)	Legge 1878-80
1875	N 08° 46' E 81° 14'	Pigeon Island 14 miles north of Trincomalee, breeding pair, one adult bird shot	Legge 1878-80
1875	N 08° 24' E 80° 30'	Anuradhapura, Tissa Wewa Tank, shot in December	Legge 1878-80
1876	N 07° 06' E 80° 46'	Hewahette, Yakka rock, shot in May	Legge 1878-80
1876	N 06° 48' E 80° 57'	Haputale, shot in August	Legge 1878-80
1876	unknown	Laymaes, juvenile shot in June	Nat. Hist. Museum, Tring
1876	N 07° 18' E 80° 37'	Kandy, one shaheen caught alive	Legge 1878-80
1876	N 07° 17' E 80° 28'	Alagalla Peak, seen in precipices	Legge 1878-80
1878	N 07° 20' E 81° 30'	Friars-Hood District, seen flying	Legge 1878-80
1878	N 06° 57' E 80° 14'	Avisawella, Yakkahatua mountain	
1938	unknown	Kumbalqaumia Hill, juvenile bird shot in December	Nat. Hist. Museum, Tring
1943	N 07° 57' E 80° 45'	Sigiriya, adult bird seen hunting	Wood & Fyfe 1943
1953	N 06° 55' E 81° 10'	Namunukula, Tonacombe Estate, adult male shot in November	Nat. Hist. Museum, Tring
1979	N 08° 26' E 80° 32'	Anuradhapura, observation on a roof in March	Schmidl 1994 pers. comm.
1979	N 07° 55' E 80° 22'	Maho, nesting pair on a rock near railway station - March	Schmidl 1994 pers. comm.
1979	N 07° 17' E 81° 32'	Inginiyagala, nesting pair in March	Schmidl 1994 pers. comm.
1979	N 07° 57' E 80° 45'	Sigiriya, breeding pair in March	Schmidl 1994 pers. comm.
1984	N 07° 57' E 80° 45'	Sigiriya, breeding pair in August	Heller M. & I. 1984

In early 1996, a set of data (Lamsfuss 1996a) concerning shaheen sightings in Sri Lanka became available and is listed in Table 4. All data are based on sightings and observations reported in the Ceylon Bird Club Notes (CBCN) for the period 1981 to 1991. Most are single sightings with only very few places where several sightings had been made. One of these is Sigiriya Rock with

more than 10 records, another the City of Colombo (Lamsfuss 1996a). From April to May 1996, the second field survey was conducted and was again started with road side counts from Colombo via Ratnapura into the South (Hambantota) and then northwards via Wellawaya-Monaragla-Bibile to Mahiyangana. The data collected during the 1996 road side count are listed in Table 3.

TABLE 2
RESULTS OF 1995 ROAD SIDE COUNTS CARRIED OUT BETWEEN 17.iii.95 AND 29.iii.95

Date	Location	Observations
19.iii.1995	N 06° 31' E 80° 26'	Karawita / Kalawana area, nest site in steep inaccessible cliff, no birds seen.
21.iii.1995	N 07° 37' E 80° 38'	Naula, approx. 10 km south on the Dambulla - Kandy road, one shaheen falcon soaring very high above the rocks.
21.iii.1995	N 07° 57' E 80° 45'	Sigiriya, nest site, but no birds seen.
22.iii.1995	N 07° 57' E 80° 45'	Sigiriya, nest site check, falcon heard but no birds seen.
22.iii.1995	N 07° 40' E 81° 06'	Kudagala Village, a breeding pair in early stage of courtship behaviour.
23.iii.1995	N 07° 40' E 81° 16'	Kudagala - breeding pair courtship behaviour.
23.iii.1995	N 07° 17' E 81° 32'	Inginiyagala, one bird seen flying over the rock.
24.iii.1995	N 07° 19' E 81° 13'	Kehelula, nest site in very steep cliff, one falcon flew across the cliff and entered the nest ledge.

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TABLE 3
RESULTS OF THE FIELD SURVEY CONDUCTED FROM APRIL TO MAY, 1996

Date	Location	Description/Observation
09.iv.96	N 06° 31' E 80° 26'	Karawitta/Kalawana, 3 birds observed on nest ledge; 1 adult and 2 fledglings (nest ledge found in 1995).
11.iv.96	N 06° 22' E 81° 14'	Lunaganwehera Reservoir, north of Tissamaharama; nest ledge in typical rock outcrop, presence of birds could not be ascertained.
12.iv.96	N 06° 41' E 81° 08'	Wellawaya, two adult birds engaged in mating behaviour, but the nest ledge could not be found.
14.iv.96	N 06° 46' E 81° 15'	Buttala; nest ledge in steep rock rafe, one adult bird seen flying around.
15.iv.96	N 06° 55' E 81° 21'	Monaragala, probable nest ledge in rock cliff, but birds could not be observed.
16.iv.96	N 06° 51' E 81° 03'	Ella to Wellawaya, probable nest site in steep rock along the road.
16.iv.96	N 07° 19' E 81° 13'	Kehelula, nest ledge found in previous year, with new white droppings.
17.iv.96	N 07° 40' E 81° 06'	Kudagala rock nest ledge found in previous year, breeding pair present.
19.iv.96	N 07° 51' E 81° 06'	Dimbulgala rock, nest ledge with many white droppings.
20.iv.96	N 06° 48' E 81° 17'	Kumbukkana, nest ledge with typical white droppings.
05.v.96	N 06° 55' E 80° 48'	Hakgala, at 1723 m one shaheen in flight passing by.

RESULTS AND DISCUSSION

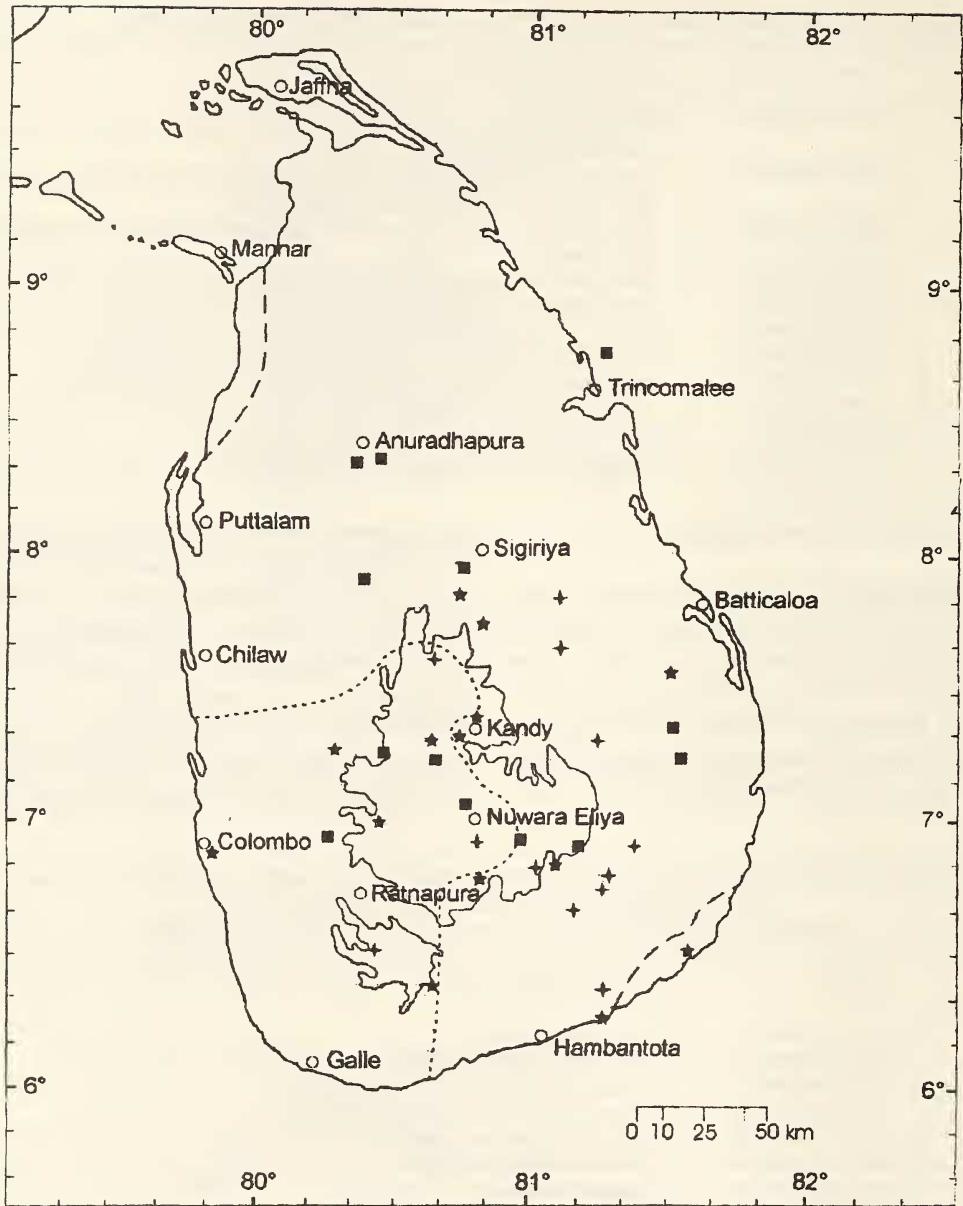
The nest sites found in 1995 and nest sites known earlier have allowed a rough calculation of the probable population in Sri Lanka. The mean distances between a cluster of nesting sites (Sigirya, Kudagala, Kehelula, Inginiyagala, Maho) were used for estimating the approximate size of the probable breeding territories. The

mean radius was calculated at $r = 22.6$ km. In this calculation it has to be considered that not every nest site was detected because of the thick forest and long distances from the road; not every potential breeding rock could be reached by car. Furthermore, it was not possible to enter the National Parks by car and in these cases the search was mostly conducted along the borders of the National Parks. A rough estimate of the

TABLE 4
RECORDS COMPILED BY LAMSFUSS (1996A) FROM THE CEYLON BIRD CLUB NOTES, 1981-1995
ONLY THE FIRST DATE OF EACH LOCATION IS GIVEN
(SUBSEQUENT SIGHTINGS AT THE SAME LOCATION ARE NOT LISTED)

Date	Location	Description/Observation
04.xi.80	N 07° 57' E 80° 45'	Sigirya, no details.
16.ii.81	N 07° 23' E 80° 47'	Kaluphahana Hill, flying, giving warning calls.
21.i.82	N 06° 30' E 81° 35'	Mayagala, a pair sitting in a cave on rock face.
20.ii.83	N 06° 48' E 80° 48'	Horton Plains, World's End, seen from above.
07.i.85	N 06° 50' E 81° 04'	Ravana Ella Falls, seen flying into a rocky ledge.
21.i.86	N 07° 35' E 81° 30'	Heenanigala Rock, no details
25.i.86	N 06° 12' E 81° 15'	Bundala, immatures
07.viii.86	N 07° 00' E 80° 25'	Kitulgala, no details.
iii.87	N 06° 56' E 79° 51'	Colombo, seen hunting and roosting in the centre of the city.
08.ix.89	N 07° 47' E 80° 49'	Bakumana, no details.
28.v.91	N 07° 20' E 80° 45'	Randenigala Reservoir, perched on dead tree close to the water's edge.
21.xii.91	N 06° 26' E 80° 38'	Suriyakanda (SE Rakwana), no details.
11.i.93	N 07° 18' E 80° 38'	Kandy, Mapanawathura Road, adult bird pursued by a flock of crows.
14.iv.93	N 07° 17' E 80° 14'	Ragala Rock, seen on rock cliffs,
27.xii.93	N 07° 52' E 80° 43'	Kandalama, flying overhead.

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- = literature survey ✦ = 1995/1996 field survey = wet zone
- ★ = Lamsfuss, CBCN 1981-1995 - - - = semi arid zones
- = City or Town

Fig. 1: Map of Sri Lanka showing all locations at which *Falco peregrinus peregrinator* has been recorded (except for the Ceylon Bird Club Notes 1942-1980, which remain to be evaluated).

total population in Sri Lanka is at least 40 breeding pairs of shaheen falcons. Additionally, there would be about 20 birds, the so called non-breeders or surplus birds. It is interesting that this estimate accords well with that of Hoffmann, who suggested approximately 100 individuals.

The findings of 1996 confirmed the original calculation, but new discoveries of nest sites in future would necessitate recalculation. It is assumed that the total number of Shaheen in Sri Lanka would be rather higher. First indications are found in the 1996 results, with the true distance from Wellawaya to Buttala being 17 km, from Buttala to Kumbukkana 4 km and from Kumbukkana to Monaragala 16 km. These distances are much shorter than those found in the previous year, but nest sites need to be confirmed for occupancy during the next survey (Fig. 1). It is still not clear which factors are responsible for limiting the population to this comparatively low number as there were no indications of food shortages or nest site limitations. In Bavaria, a part of southern Germany almost as large as Sri Lanka (65,000 km²), a breeding population of 115 pairs of peregrine falcon (*Falco peregrinus peregrinus*) has been recorded, and Baden Württemberg has 205 breeding pairs in an area of 35,750 km²

(Kostrzewa and Speer 1995). The arithmetic mean values are 1 pair for every 1,625 km² in Sri Lanka, 1 pair for every 565 km² in Bavaria and 1 pair for every 174 km² in Baden Württemberg. The very low density of the estimated population in Sri Lanka is obvious. As stated before, neither food shortage nor nest site limitations could be observed, and if it is assumed that the calculated population in Sri Lanka is correct, there must be some other factor(s) responsible for this relatively low density.

Further research and direct field observation will help to provide more details, which promise to be of considerable interest.

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